

BULLETIN

OF THE INSTITUTE OF METALS

VOLUME 4

AUGUST 1958

PART 12

INSTITUTE NEWS

Autumn Meeting, Birmingham, 22-26 September 1958

As already announced, the 1958 Autumn Meeting will be held in Birmingham from Monday to Friday, 22-26 September, by kind invitation of the Birmingham Local Section. The fact that the first Autumn Meeting of the Institute took place in Birmingham makes this invitation to hold the Autumn Meeting in that City, in the Institute's Golden Jubilee Year, particularly welcome.

A very attractive programme of social events and visits has been arranged by the Birmingham Local Section, which it is hoped will attract a large attendance of members and their guests.

A separately printed programme and reply form should already be in the hands of members. Further copies may be obtained by those interested on application to the Secretary, 17 Belgrave Square, London, S.W.1.

Nuclear Energy

In view of the increasing interest in metallurgical problems arising in the use of nuclear energy, members are reminded of the facilities available to members concerned with this subject through the normal activities of the Institute.

In 1955 the Council established the Nuclear Energy Committee to co-ordinate and stimulate discussion of metallurgical problems in this field. Under the auspices of this committee a number of special sessions for the presentation and discussion of papers have already taken place, a considerable number of relevant papers have been published, and further meetings will be arranged and papers invited as opportunity offers.

Early in 1957, the Institute joined the British Nuclear Energy Conference, a body formed to co-ordinate the activities of the constituent members of the Conference in the field of nuclear energy, by holding meetings and by the publication of a Journal. The constituent members of the B.N.E.C. are the Institutions of Civil, Mechanical, and Electrical Engineers, the Institute of Physics, the Institution of Chemical Engineers, the Iron and Steel Institute, the Institute of Fuel, and the Institute of Metals, and it was considered that the interests of the members of all these societies would best be served by providing machinery which encourages the discussion of problems of nuclear energy within the organization of the appropriate Institute but at the same time gives those specially concerned with this field access to all the relevant information. The

B.N.E.C. publishes a regular quarterly *Journal of the British Nuclear Energy Conference*, which members of the Institute can obtain at half the published price, namely, at 30s. per annum. The B.N.E.C. has already arranged, and will continue to arrange, meetings and symposia which members of the constituent bodies are entitled to attend. Members of the Institute are invited to attend meetings arranged by any of the constituent societies which are concerned with aspects of the use of nuclear energy, and details of such meetings are published from time to time in the *Bulletin*.

Election of Members

The following 29 Members, 4 Junior Members, and 13 Student Members were elected on 30 May 1958:

As Ordinary Members

BRISTOW, James Stephen, B.Sc., F.I.M., Editor, *Metallurgical Abstracts*, 17 Belgrave Square, London, S.W.1.

BURNS, Jay Robert, B.S., Assistant Technical Director, Madison Division, The Dow Chemical Co., Madison, Ill., U.S.A.

ČABELKA, Professor Jozef, Dr.-Ing., Professor of Mechanical Engineering, Slovenská Vysoká Škola Technická, Bratislava; Director Výskumný ústav sváračsky (Welding Research Institute) Bratislava, Czechoslovakia.

COLLINS, David Brian, L.I.M., Assistant Metallurgist, Thomas Perry and Sons, Ltd., Highfield Road, Bilston, Staffs.

EISENKOLB, Professor Friedrich, Dr.-Ing.habil., Dr.rer.nat., Professor mit Lehrstuhl für Werkstoffkunde, Technische Hochschule, Dresden; Direktor, Forschungsinstitut für metallische Spezialwerkstoffe, Akademie der Wissenschaften, Helmholtzstrasse 20, Dresden A.27, Deutsche Demokratische Republik.

ELKAN, Robert Max Ludwig, B.Sc.Eng., A.M.I.Mech.E., The Loewy Engineering Co., Ltd., Wallisdown Road, Bournemouth.

FIRTH, Robert Waring, B.Sc., Works Metallurgist, Sagar Richards, Ltd., Luddendenfoot, Halifax.

GOLDMAN, Kenneth Marvin, D.Sc., Supervisory Engineer, Corrosion and Fuel Element Development Section, A1W Reactor Project, Westinghouse Electric Corp., Bettis Plant, P.O. Box 1468, Pittsburgh 30, Pa., U.S.A.

HARRIS, William J., Jr., B.S., M.S.E., Sc.D., Executive Director, Materials Advisory Board, National Academy of Science, 2101 Constitution Avenue, Washington 25, D.C., U.S.A.

HERLIHY, F. B., American Brake Shoe Co., Research Centre, Mahwah, N.J., U.S.A.

PERSONAL NOTES

- HINO, Jun., Ph.D., Supervisor, Physical and Mechanical Metallurgy, AlW Reactor Project, Westinghouse Electric Corp., Bettis Plant, Pittsburgh 30, Pa., U.S.A.
- HULTHÉN, Sven Ingvar, Höganäs-Billesholms AB., Höganäs, Sweden.
- LAURIE, William Charles, Chief Draughtsman, Bruce and Partners, 2 Caxton Street, London, S.W.1.
- LEIGH, Francis Simon Joseph, B.Sc., Manager, Melting Furnace Division, Birlec Ltd., Tyburn Road, Birmingham 24.
- LITTON, Felix B., M.S., Manager, Metallurgy Research, Research and Development Laboratories, Foote Mineral Co., Berwyn, Pa., U.S.A.
- MABBUTT, Dennis John, A.I.M., Chief Chemist and Metallurgist, Parker Pen Co., Ltd., Railway Road, Newhaven, Sussex.
- MOISAN, Jacques, Ing., Ingénieur, Office Nationale d'Etudes Aéronautiques (O.N.E.R.A.), 29 avenue de la Division Leclerc, Chatillon-sous-Bagneux, (Seine), France.
- MOLENA, Fernando, Alumínio do Brasil S/A, Rua Felipe Camarão 414-Utinga, São Paulo, Brazil.
- MOORS, George Thomas, A.R.T.C.S., A.M.C.T., A.M.I.E.E., Metallurgist, Research Department, Metropolitan-Vickers Electrical Co., Ltd., Trafford Park, Manchester 17.
- NEU, Max Gerhard, A.I.M., Chief Development Metallurgist, Foundry Services International, Ltd., Long Acre, Birmingham 7.
- PFENDER, Professor Max, Dr.-Ing., Präsident, Bundesanstalt für Materialprüfung, Unter den Eichen 87, Berlin-Dahlem, Germany.
- SAVAGE, Lyle E., Chicago Extruded Metals Co., 1602-1642 South 54th Avenue, Cicero 50, Ill., U.S.A.
- SCOTT, Barry, B.A., Acting Librarian, Main Library, University of Queensland, St. Lucia, Brisbane, Australia.
- SPIEGL, Fred, M.E., Executive Vice-President, Titanium Fabricators, Inc., 3906 Cohasset St., Burbank, Calif., U.S.A.
- STEURER, Wolfgang Hermann, M.S., Dr.-Ing., Chief, Materials Research, Army Ballistic Missile Agency, Huntsville, Ala., U.S.A.
- STEVENS-WILSON, Laurence William, Head, Development and Steel User Section, British Iron and Steel Research Association, 11 Park Lane, London, W.1.
- WILLIAMS, J. M., Director, Research and Development, Turbine Parts Division, Utica Drop Forge and Tool, Division of Kelsey-Hayes Co., Utica 4, N.Y., U.S.A.
- WOOD, Anthony Arthur Robinson, A.R.I.C., Senior Research Chemist, Research Laboratories, Borax Consolidated, Ltd., Chessington, Surrey.
- ZEEV, Hadari, Doct.ès-Sc., Département de Métallurgie et de Chimie Appliquée, Centre d'Etudes Nucléaires de Saclay, Commissariat à l'Energie Atomique, Gif-sur-Yvette, (S. et O.), France.

As Junior Members

- ARROWSMITH, David John, M.A., A.I.M., Metallurgist, Experimental Department, The British Aluminium Co., Ltd., Falkirk.
- HARVEY, John, Research Metallurgist, The British Thomson-Houston Co., Ltd., Rugby.
- HERBERT, Derek Owen, Technical Assistant, Henry Wiggin and Co., Ltd., Wiggin Street, Birmingham.
- STAEBLE, Roger Washburne, B.Met.Eng., M.S., Engineer, Naval Reactors Branch, United States Atomic Energy Commission, Arlington 6, Va., U.S.A.

As Student Members

- CHAPMAN, Brian Eric, Assistant Metallurgist, William Jessop and Sons, Ltd., Brightside Works, Sheffield 9.
- DUNLOP, Geoffrey Alan, Undergraduate, Department of Metallurgy, University of Queensland, Brisbane, Australia.
- FRANKLIN, Allan Gordon, B.Sc., Post-graduate Student, Department of Metallurgy, University of Sheffield.
- HALE, John, Laboratory Assistant, The Villiers Engineering Co., Ltd., Marston Road, Wolverhampton.
- LAKELAND, Kenneth Donald, Student Metallurgist, 100 Grafton St., Windsor N15, Brisbane, Queensland, Australia.
- MALTBY, David William, Metallographer, Sentinel (Shrewsbury), Ltd., Whitchurch Road, Shrewsbury.
- POUNDER, Brian Robertson, Student Metallurgist, Enfield Rolling Mills, Ltd., Brimsdown, Enfield, Middlesex.
- REED, Richard Eugene, B.S.E., Metallurgy Department, Carnegie Institute of Technology, Pittsburgh 13, Pa., U.S.A.
- ROSS-MACDONALD, Sandy Jonathan, Undergraduate, Department of Metallurgy, University of Cambridge.
- ROTHWELL, George Peter, Undergraduate, Department of Metallurgy, University of Cambridge.
- WALLBANK, Tony Clempson, B.Sc., L.I.M., Metallurgist, English Electric Co., Ltd., Atomic Power Projects, Whetstone, Leicester.
- WATSON, James Frederic, M.S.E., Ph.D., Graduate Student, Department of Chemical and Metallurgical Engineering, University of Michigan, Ann Arbor, Mich., U.S.A.
- WEBB, David Leslie, Metallurgical Chemist, Sentinel (Shrewsbury), Ltd., Whitchurch Road, Shrewsbury.

PERSONAL NOTES

DR. N. P. ALLEN has been elected a Vice-President of the Institution of Metallurgists.

Dr. W. A. BAKER has relinquished his position as Research Manager of the British Non-Ferrous Metals Research Association to join the Northern Aluminium Co., Ltd.

MR. W. E. BALLARD, Managing Director of Metallisation, Ltd., has been elected President of the Institution of Metallurgists for 1958-59.

MR. J. K. BEDDOW has left Cambridge University and joined the staff of the Glacier Metal Co., Ltd., Kilmarnock.

MR. A. CIBULA, Head of the Melting and Casting Section of the British Non-Ferrous Metals Research Association, has been appointed Joint Research Superintendent.

MR. W. J. G. COSGRAVE is now Metallurgist to the Midland Sales Area for the Electric Furnace Co., Ltd., and Electric Resistance Furnace Co., Ltd.

MR. A. DEARDEN has left Daimler, Ltd., and joined the Development Division of the British Cast Iron Research Association, Alvechurch, near Birmingham.

MR. R. EBORALL, Head of the General Metallurgy Section of the British Non-Ferrous Metals Research Association has been appointed Joint Research Superintendent.

MR. D. S. HIGGS has left the British Non-Ferrous Metals Research Association to become Deputy Materials Engineer, Sperry Gyroscope Co., Ltd., Bracknell, Berks.

OBITUARY

DR. T. P. HOAR has been selected by the National Association of Corrosion Engineers to receive its Whitney Award for 1957.

MR. R. C. JEWELL has left the Sheffield Smelting Co., Ltd., and is now Senior Metallurgist in the Research Laboratories of Pilkington Bros., Ltd., St. Helens.

MR. W. K. JOHNSON has left A. V. Roe and Co., Ltd., and is now with Aluminium Laboratories Limited, Banbury.

DR. R. KING, of Imperial Chemical Industries, Ltd., Metals Division, has been elected President of the Birmingham Metallurgical Society.

MR. G. MEIKLE has been elected a Vice-President of the Institution of Metallurgists.

DR. J. P. NIELSEN has been appointed Chairman of the Department of Metallurgical Engineering, New York University.

DR. N. B. PILLING has recently retired from his position with the International Nickel Co., Inc., New York.

MR. E. ROSS has left the Armament Research Establishment, Woolwich, and is now a Senior Scientific Officer in the Research and Development Branch of the U.K. Atomic Energy Authority, Springfield Works, near Preston.

MR. R. T. THORLEY has been appointed Divisional Metallurgist in the Rolling Division of High Duty Alloys, Ltd., Briton Ferry, Neath, Glam.

Deaths

The Editor regrets to announce the deaths of:

MR. VINCENT PAUL DELPORT, Managing Director of the Penton Publishing Co., Ltd., on 3 June, aged 69.

DR. CECIL HENRY DESCH, Fellow and Past-President of the Institute, on 19 June, aged 84.

Professor Dr. Ing. Dr. Ing. E. h. EDOUARD HOUDREMONT on 10 June, aged 62.

OBITUARY

Mr. W. H. Eisenman

William Hunt Eisenman, Secretary and a founder-member of the American Society for Metals, died on 30 May at LaJolla, California, aged 73.

A native of Jamestown, Ohio, Mr. Eisenman joined the American Society for Steel Treating, forerunner of the A.S.M., in 1918 as national Secretary. Under his leadership the Society grew from a one-desk organization with fewer than 200 members to more than 30,000 members in 105 Chapters in the U.S. and Canada.

Mr. Eisenman was educated at Kenyon College, Stanford University, Morningside College, Iowa, and Ohio State University. After a brief period as a professional football player, he began his career as a high-school principal in Olathe, Kansas. Subsequently he was head of the chemistry department at Racine (Wisc.) College, and superintendent of schools in Elmhurst, Illinois.

For many years he served as managing director of the National Metal Show, one of the nation's largest industrial expositions. He also directed the Western Metal Exposition and Congress held biennially at Los Angeles, for 20 years, and

shortly before his death had launched the new Southwestern Metal Exposition and Congress, at Dallas, Texas.

His contacts were world-wide and he was originator and secretary general of the first World Metallurgical Congress at Detroit in 1951 and of the second Congress at Chicago in 1957. Both were attended by scientists from many countries.

Mr. Eisenman was an honorary member of the Deutsche Gesellschaft für Metallkunde, Société Française de Métallurgie, Association des Ingénieurs Sortis de l'Ecole de Liège, and the Iron and Steel Institute, as well as of the Institute of Metals. He was awarded the Gold Medal of the American Society for Metals in 1956, for his distinguished contribution to metallurgy.

During the Second World War he served as secretary of a special committee of 20 scientists working under the auspices of the National Academy of Sciences on wartime metals problems and metals conservation.

He had been secretary of the Metal Treating Institute, president of the National Association of Exhibit Managers and the American Convention Institute. He was on the advisory committee for the Chicago World's Fair (1933) and director of St. Louis, Philadelphia, and Kansas City civic celebrations.

At the time of his death, Mr. Eisenman was scheduled to receive an honorary Doctor of Laws degree from Western Reserve University, Cleveland, Ohio.

PERSONALITIES

Sir John Cockcroft

(Honorary Member)

John Douglas Cockcroft was born in 1897. He studied electrical engineering at Manchester and later went to Cambridge, where he worked under Lord Rutherford at the Cavendish Laboratory.



He first collaborated with P. Kapitza in the production of intense magnetic fields and low temperatures. He later worked on the acceleration of protons by high voltages, together with E. T. S. Walton. In 1932 he succeeded in transmuted lithium and boron by high-energy protons.

In 1939 he became Jacksonian Professor of Natural Philosophy and in September of that year he took up another

appointment as Assistant Director of Scientific Research in the Ministry of Supply, and started work on the application of radar to coast and air defence problems. He was later appointed Head of the Air Defence Research and Development Establishment at Christchurch.

In 1944 he went to Canada to take charge of the Canadian Atomic Energy project, and became Director of the Montreal and Chalk River Laboratories until 1946, when he returned to England as Director of the newly formed Atomic Energy Research Establishment, Harwell.

He is now Member of the United Kingdom Atomic Energy Authority for Scientific Research having relinquished the post of Director of the A.E.R.E., Harwell in February 1958.

He was knighted in 1948 and made a Knight Commander of the Order of the Bath in 1953. He was awarded the Order of Merit in 1957. He was elected a Fellow of the Royal Society in 1936.

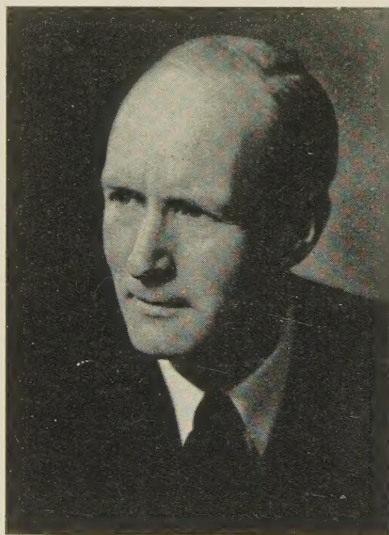
Sir Christopher Hinton

(Honorary Member)

Christopher Hinton was born at Tisbury, Wilts., in 1901. He attended Chippenham Grammar School and served a five-year apprenticeship at the Great Western Railway Works at Swindon, and afterwards worked in the drawing office there.

In 1923 he was awarded the William Henry Allen Prize by the Institution of Mechanical Engineers and with this went to Trinity College, Cambridge. He took first-class honours in the Mechanical Sciences Tripos at the end of his second year and spent his last year on research on vibration of bridges. He was a Senior Exhibitioner of Trinity College in 1924 and 1925 and a Senior Scholar in 1926, in which year also he won the John Wimbolt and Second Yeats Prizes.

In 1926 he was appointed to the staff of Brunner Mond and Co., Ltd., at Northwich (which later became part of I.C.I.) and was made Deputy Chief Engineer in 1928 and Chief



Engineer in 1931. In 1940 he was loaned by I.C.I. to the Ministry of Supply and in 1942 he became Deputy Director General in charge of the Royal Filling Factories, remaining in that post until the end of 1945. He was then asked and agreed to transfer to the Civil Service and to take charge, under Lord Portal of Hungerford, of the production organization of atomic energy.

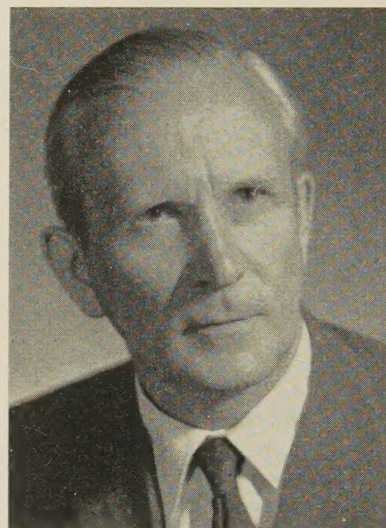
He later became Managing Director of the Industrial Group of the Atomic Energy Authority and from 1946 to 1957 was responsible for the headquarters at Risley and the plants at Springfields, Windscale, Capenhurst, Calder Hall, Dounreay, and Chapel Cross. In September 1957 he left the Atomic Energy Authority on his appointment as Chairman of the Central Electricity Generating Board.

He was knighted in 1951 and made a Knight Commander of the British Empire in 1956. In March 1954 he was elected a Fellow of the Royal Society, and in December 1957 he was elected an Honorary Fellow of Trinity College, Cambridge. He has been given Honorary Degrees by Liverpool, London, and Oxford Universities. He is a Vice-President of the Institution of Mechanical Engineers.

Professor Dr.phil. Dr.-Ing. E.h. W. Köster

(Honorary Member)

Werner Köster was born in Hamburg in 1896. After serving as an officer in the First World War, he studied physical chemistry at the Universities of Freiburg and Göttingen, where



he was a pupil of Tammann. After graduating in 1922, he carried out research on iron and steel at the Kaiser-Wilhelm Institut für Eisenforschung in Düsseldorf. He then gained experience of the non-ferrous metals while metallographer with the Schweizerische Metallwerke Selve und Co., Thun (1924-27). Between 1927 and 1933 he worked in the Research Department of Vereinigte Stahlwerke A.G., Dortmund, first on iron age-hardenable by addition of carbon and nitrogen and later on the development of carbon-free age-hardenable permanent-magnet alloys.

After a short period as Head of the Research Department of the Deutsche Edelstahlwerke A.G., Krefeld, Dr. Köster was appointed Professor of Metallurgy at the Technische Hochschule, Stuttgart, and Director of the Kaiser-Wilhelm Institut für Metallforschung (now the Max-Planck Institut). Here his research work has been concerned mainly with the constitution of binary and ternary alloys, the elastic and anelastic properties of alloys, the interpretation of ageing processes, and magnetic materials.

The Deutsche Gesellschaft für Metallkunde, of which Professor Köster is a Member of Council, appointed him

Editor of the *Zeitschrift für Metallkunde* in 1936 and awarded him the Heyn Medal in 1952. He received the Luigi Losana Gold Medal of the Associazione Italiana di Metallurgia in 1956 and was made an Honorary Member of the Instituto de Hierro y del Acero in 1955. He was awarded the honorary degree of Dr.-Ing. by the Technische Universität, Berlin, in 1956.

Professor Dr. Ing. A. von Zeerleder

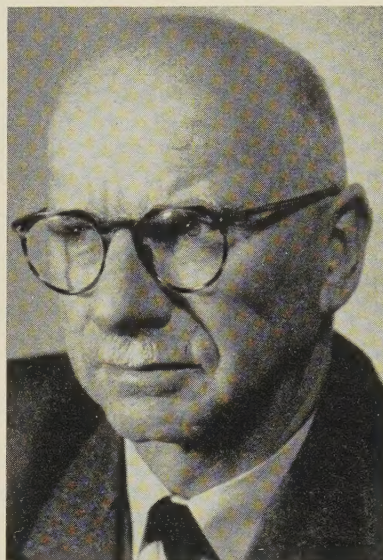
(Fellow)

Alfred von Zeerleder was born in 1890 at Berne, Switzerland, and educated at the Freies Gymnasium there. He subsequently studied at the Eidgenössische Technische Hochschule, Zürich, and gained practical experience at the works of Brown, Boveri & Cie, Baden. He obtained the degrees of Dipl. Ing. and Dr. Ing. at the Technische Hochschule, Aachen.

After a short period with a metal mining firm in Germany, Dr. von Zeerleder from 1917 to 1919 acted as consultant on metals to the Economic Department of the Swiss Federal Government in Berne. In 1920 he was appointed head of the Research Laboratories of Aluminium-Industrie A.G., at Neuhausen-am-Rheinfall, a position he held until his retirement in 1955. He was also for many years a visiting professor at the E.T.H., Zürich.

Dr. von Zeerleder has published well over 100 papers in various scientific and technical journals, as well as making numerous contributions to handbooks, encyclopedias, etc. He is also the author of the textbooks: "Technologie des

Aluminiums und seiner Leichtlegierungen" and "Technologie der Leichtmetalle", both of which have been translated into English.



In recent years Dr. von Zeerleder has received the honorary degrees of Dr. mont. and Dr. rer. nat. and he was awarded the Donegani Medal of the Associazione Italiana di Metallurgia in 1953.

COUNCIL 1958-59

President:

Tedder, Marshal of the Royal Air Force, The Lord, G.C.B., D.C.L., LL.D.: Chairman, Standard Motor Co., Ltd.; Director, The Distillers Co., Ltd.

Past-Presidents:

Ball, Major C. J. P., D.S.O., M.C., F.R.Ae.S.; Member of the Management Committee of The Distillers Co., Ltd.; Chairman, Magnesium Elektron, Ltd.; Managing Director, F. A. Hughes and Co., Ltd.; Director, Magnesium Elektron, Inc. (U.S.A.); Director, Sterling Metals, Ltd.; Director, Turners Carbides, Ltd.

Cook, Maurice, D.Sc., Ph.D., F.I.M.; Chairman, Imperial Chemical Industries, Ltd., Metals Division.

Pfeil, L. B., O.B.E., D.Sc., A.R.S.M., F.I.M., F.R.S.; Director, The Mond Nickel Co., Ltd.; Director, Henry Wiggin and Co., Ltd.

Vice-Presidents:

Bailey, G. L., C.B.E., M.Sc., F.I.M.; Director, British Non-Ferrous Metals Research Association (*Senior Vice-President*).

Grimston, The Hon. John, M.P.; Managing Director, Enfield Rolling Mills, Ltd.; Chairman, Enfield Copper Refining Co., Ltd.; Chairman, Enfield Zinc Products, Ltd.; Chairman, London Zinc Mills, Ltd.; Chairman, Holloway Metal Roofs, Ltd.; Chairman, The Aston Chain and Hook Co., Ltd.

Hamer, R. D., B.Sc., F.I.M.; Director, Aluminium

Laboratories Limited; Director, Magnesium Company of Canada, Ltd.

Inglis, N. P., Ph.D., M.Eng., M.I.Mech.E., F.I.M.; Research Director, Imperial Chemical Industries, Ltd., Metals Division.

Jenkins, Ivor, D.Sc., F.I.M.; Chief Metallurgist, Research Laboratories of The General Electric Co., Ltd.

Prain, Sir Ronald, O.B.E.; Chairman and President, Rhodesian Selection Trust, Ltd.; Chairman and President, Roan Antelope Copper Mines, Ltd.; Chairman and President, Mufulira Copper Mines, Ltd.; Chairman and President, Chibuluma Mines, Ltd.; Chairman, Ndola Copper Refineries, Ltd.; Chairman, Anglo Metal Co., Ltd.; Director, International Nickel Company of Canada, Ltd.; Director, Metal Market and Exchange Co., Ltd.

Honorary Treasurer:

Colquhoun, J. C., M.B.E.; Chairman, The Manganese Bronze and Brass Co., Ltd.; Chairman, Lightalloys, Ltd.; Director, Steven and Struthers, Ltd.

Ordinary Members of Council:

Benson, L. E., M.Sc., F.I.M.; Chief Metallurgist, Metropolitan-Vickers Electrical Co., Ltd.

Cunliffe, The Hon. Geoffrey, Deputy Chairman and Joint Managing Director, The British Aluminium Co., Ltd.; President, Canadian British Aluminium Co., Ltd.; Director, Aluminium Corporation, Ltd.; Director, Aluminium Wire and Cable Co., Ltd.; Director, James Booth and Co., Ltd.; Director, Imperial Magnesium Corporation, Ltd.; Director, Magnesium Elektron, Ltd.

Cuthbertson, Professor J. W., D.Sc., F.I.M., A.M.I.E.E.; Professor of Metallurgy, University of Nottingham.

Dono, G. E., J.P.; Director, Morris Motors, Ltd., and associated companies.

Finniston, H. M., B.Sc., Ph.D., A.R.T.C., F.I.M.; Chief Metallurgist, Research Group, U.K. Atomic Energy Authority.

Ford, Professor Hugh, D.Sc., Ph.D., Wh.Sch., M.I.Mech.E.; Professor of Applied Mechanics, Imperial College of Science and Technology, University of London.

Francis-Carter, C. F. J., O.B.E., F.R.I.C., M.I.Chem.E., F.I.M.; Managing Director, Aluminium Wire and Cable Co., Ltd.

Holden, C. H. M., F.I.M.; Managing Director, The Hall Street Metal Rolling Co., Ltd.; Managing Director, Charles Clifford, Ltd.; Chairman, V. J. Copas, Ltd.; Director, Metallisation, Ltd.; Director, Metallisation (Scotland), Ltd.; Director, The Midland Metallurgical Laboratories, Ltd.

Hunt, L. B., M.Sc., Ph.D., A.R.C.S., F.R.I.C., F.I.M.; Manager, Industrial Division, Johnson, Matthey and Co., Ltd.; Director, Mallory Metallurgical Products, Ltd.

Kirkwood, The Rt. Hon. the Lord, Director, Consolidated Zinc Corporation (Sales), Ltd.; Director, Imperial Smelting Corporation, Ltd.; Director, National Alloys, Ltd.; Director, National Smelting Co., Ltd.; Director, Wolverhampton Die Casting Co., Ltd.

Neave, D. P. C., M.A., M.I.Mech.E.; Director, The British American Metals Co., Ltd.; Director, Capper Pass and Son, Ltd.; Director, James Bridge Copper Works, Ltd.; Director, Wolverhampton Metal Co., Ltd.

O'Neill, Professor Hugh, M.Met., D.Sc., F.I.M.; Professor of Metallurgy, University College, Swansea.

Randall, W. F., B.Sc., A.R.S.M., M.I.E.E., F.I.M.; Director, Telegraph Construction and Maintenance Co., Ltd.; Managing Director, Magnetic and Electrical Alloys, Ltd.; Managing Director, Sankey-Telcon, Ltd.; Chairman, Telcon Magnetic Cores, Ltd.; Chairman, Temco, Ltd.; Director, Submarine Cables, Ltd.; Director, Toolpro, Ltd.

Tomlinson, F. W., M.A., M.I.E.E.; Managing Director, Pyrotenax, Ltd.; Executive Vice-President, Pyrotenax of Canada, Ltd.; Director, Pyrotenax Australia Pty., Ltd.

Waine, F.; Chairman, Thomas Bolton and Sons, Ltd.; Director, British Insulated Callender's Cables, Ltd.; Director, Connolly's (Blackley), Ltd.; Director, United Telephone Cables, Ltd.; Director, Southern United Telephone Cables, Ltd.

Ex-officio: Chairmen of Local Sections

Birmingham

Homer, C. E., Ph.D., B.Sc., F.I.M.; Tube Investments, Ltd.

London

Harper, R. G., M.Sc.; Assistant Managing Director, Fry's Metal Foundries, Ltd.

Oxford

Hopkin, G. L., O.B.E., B.Sc.(Met.), F.I.M.; Chief of Materials Division, Atomic Weapons Research Establishment.

Scottish

Harris, H., Ph.D., B.Sc., A.R.C.S., D.I.C.; Chief Metallurgist, Babcock and Wilcox, Ltd.

Sheffield

Honeycombe, Professor R. W. K., Ph.D., M.Sc.; Professor of Physical Metallurgy, University of Sheffield.

South Wales

Francis-Carter, C. F. J., O.B.E., F.R.I.C., M.I.Chem.E., F.I.M.; Managing Director, Aluminium Wire and Cable Co., Ltd.

Committees for 1958-59

Finance and General Purposes Committee

HAMER, Mr. R. D. (*Chairman*).

BALL, Major C. J. P.

COOK, Dr. Maurice

GRIMSTON, The Hon. John

NEAVE, Mr. D. P. C.

PFEIL, Dr. L. B.

Ex-officio:

TEDDER, Lord (*President*).

BAILEY, Mr. G. L. (*Senior Vice-President*).

COLQUHOUN, Mr. J. C. (*Honorary Treasurer*).

FINNISTON, Dr. H. M. (*Chairman, Publication Committee*).

House Committee

COOK, Dr. Maurice (*Chairman*).

BALL, Major C. J. P.

COLQUHOUN, Mr. J. C.

Ex-officio:

TEDDER, Lord (*President*).

HAMER, Mr. R. D. (*Chairman, Finance and General Purposes Committee*).

Library Committee

CHASTON, Dr. J. C. (*Chairman*).

CHILTON, Mr. L. V.

FULLMAN, Mr. B.

GUILLAN, Lieut.-Colonel S. C.

PARKER, Miss E. W.

Local Sections Committee

FINNISTON, Dr. H. M. (*Chairman*).

ASHTON, Mr. A. B.

GARSDIE, Dr. J. E.

KENNETT, Dr. S. J.

LIDDIARD, Mr. E. A. G.

HOMER, Dr. C. E. (*Chairman, Birmingham Local Section*).

MATTHEWS, Mr. A. W. (*Honorary Secretary, Birmingham Local Section*).

HARPER, Mr. R. G. (*Chairman, London Local Section*).

KNIGHT, Mr. J. R. (*Honorary Secretary, London Local Section*).

HOPKIN, Mr. G. L. (*Chairman, Oxford Local Section*).

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HARRIS, Dr. H. (*Chairman, Scottish Local Section*).

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OTHER NEWS

Symposium on Mechanical Properties of
Intermetallic Compounds

It is proposed to hold a Symposium on Mechanical Properties of Intermetallic Compounds during the 115th Meeting of the Electrochemical Society at Philadelphia, Pennsylvania, from 3-7 May 1959.

For the purposes of this Symposium intermetallic compounds will be held to comprise all intermediate phases in binary or higher-order systems of true metals, including superlattices. Interstitial compounds of metals and non-metals such as the carbides, nitrides, borides, &c., will not be considered.

It is hoped that papers covering the following topics may be included:

Fundamental Behaviour: Deformation Modes, Initiation and Propagation of Fracture, Effects of Crystal Structure, Dislocations in Intermetallic Compounds, Influence of Point Defects, Radiation Damage.

Phenomenology: Effects of Processing Variables, Temperature-Dependence of Mechanical Properties, Effects of Impurities, Effects of Alloying, Effects of Stress State and Strain Rate.

Experimental Techniques: Testing Techniques Applicable to Brittle Compounds, Preparation of Intermetallic Compounds with reference to Mechanical-Property Studies (e.g. Single Crystal, High-Purity Samples).

Notification of the titles and authors of proposed papers should be sent immediately, and triplicate copies of 75-word abstracts sent by 1 January 1959, to: Dr. J. H. Westbrook, General Electric Research Laboratory, P.O. Box 1088, Schenectady, N.Y., U.S.A. Arrangements can be made for foreign authors who wish to have papers presented *in absentia*.

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If you produce, extract, test, fabricate, design, or use metals in any way, this report of 49 experts on chromium can give you the most up-to-date and accurate information available today. Entirely new fields of usefulness for chromium and its alloys are forecast in this well-illustrated volume of proceedings at the important conference on Ductile Chromium co-sponsored by the Office of Ordnance Research, U.S. Army, and the American Society for Metals.

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The book's 27 chapters are presented in five sections. Section 1 provides a general review of research on chromium. Section 2 deals with the production of chromium metal. Section 3 discusses ductile chromium metals, with Section 4 devoted to the effect of gas on chromium metal, and Section 5 reports on high-chromium alloys.

Here is an opportunity for you to explore the many new applications for chromium. Be an authority on ductile chromium—over one million tons of chromite ore are consumed annually in the United States! Take advantage of this chance to learn what 49 authorities know about this increasingly important metal. Send for Ductile Chromium with the coupon below.

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EFFECT OF RESIDUAL ELEMENTS

Learn the importance of impurities in metals! Strangely enough, as this new authoritative book explains, if absolutely pure metals could and were to be substituted for the technical grades currently in use, the metal fabrication industries would be faced with many new and difficult problems! Learn how "Trace Elements" strangely influence mechanical properties and crystal growth of metals. Learn how these impurities influence the strength and ductility of metals!

In this review of fundamental considerations of residual elements, the authors expertly write of the effects these elements have on aluminum, magnesium, copper, nickel, steel, titanium, zirconium, molybdenum, and chromium. Learn how these metals are affected by residual elements. Learn how residual elements, produce favorable qualities and, just as frequently, adverse qualities! Attractively bound in red cloth and consisting of 217 pages, this book brings to you the up-to-date reports of five authorities. Easy to read and well-supplemented with charts, graphs, tables, and photographs, it will become a ready reference for designers, engineers, metallurgists and others whose job it is to know metals.

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What factors determine fatigue durability in carburized steel? Why do some carburized steels withstand more stress than others? You can find out in this just-off-the-press book *Fatigue Durability of Carburized Steel*.

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APPOINTMENTS VACANT

Symposium on Aluminium Pressure Vessels

A Symposium on the design, manufacture, and use of aluminium pressure vessels is to be held at the Institute of Mechanical Engineers, 1 Birdcage Walk, London, S.W.1, on Tuesday 28 October 1958, beginning at 2.0 p.m. It is being arranged by the Institution in conjunction with the Aluminium Development Association, the Institute of Welding, and the British Welding Research Association.

Four papers, which will be available in advance of the meeting, are to be presented and discussed. There will be a combined charge of ros. for the papers and registration. Registration forms and further details may be obtained from the Secretary of the Institution of Mechanical Engineers.

APPOINTMENTS VACANT

A QUALIFIED METALLURGIST is required by the Chloride Electrical Storage Co. to carry out investigational work primarily concerned with lead-base alloys at their Central Research and Development Unit, which will shortly move to newly built premises in the Swinton, Lancs., area. The successful candidate, who should be an A.I.M. or qualified by degree, should be capable of leading a Section in this work. An attractive commencing salary is offered and the Company operates a non-contributory Pension Scheme. Applications, giving full details of qualifications and experience, should be addressed to the Chief Personnel Officer, Exide Works, Clifton Junction, Swinton, Manchester.

INVESTIGATOR for laboratory and pilot-plant-scale development work in Research Department dealing with electrical conductors. Scope of work is primarily electrolytic processes as applied to metals, along with study of properties of metallic and non-metallic coatings produced by them. Candidates should have degree (or equivalent) in physics, chemistry, or general science and should be capable of considerable degree of independence in working. Preferred age group 22-30. Post is in Manchester area. Box No. 442, Institute of Metals, 17 Belgrave Square, London, S.W. 1.

METALLURGIST required for small Research and Development section covering a wide range of materials and processes used in the manufacture of aircraft gas-turbine fuel systems. Applicants should have a degree or equivalent and preferably some research experience. Should be able to plan and carry out projects on own initiative with a minimum of direction. Apply to Personnel Manager, Joseph Lucas (Gas Turbine Equipment), Ltd., Shaftmoor Lane, Hall Green, Birmingham 28.

SIEMENS EDISON SWAN RESEARCH LABORATORY METALLURGIST

required in the newly established Siemens Edison Swan Research Laboratory for work of an interesting and varied nature concerned with the investigation of new alloys.

Candidates should have an honours degree, and some industrial experience or research experience is desirable.

The Laboratory buildings are new, well equipped, and in pleasant

surroundings. Housing is available for the successful applicant. Please write for further information to:

Personnel Officer,
Siemens Edison Swan Research Laboratory,
West Road, Templefields,
Harlow, Essex.

TECHNICAL REPRESENTATIVE for ultrasonic flaw-detection equipment. Applicants should have good technical qualification in metallurgy, physics, or electronic engineering, preferably to degree standard. Experience of ultrasonic testing would be an advantage. The post is for an expanding department and represents a good career for an engineer with initiative and drive. Full details, of age, experience, salary, to Ultrasonoscope Co., Sudbourne Road, London, S.W.2.

THE MOND NICKEL COMPANY, LIMITED

WELDING RESEARCH

Qualified metallurgists are invited to apply for a post as **SENIOR INVESTIGATOR** in the expanding Welding Section of the Birmingham Laboratory of The Mond Nickel Company, Limited.

The work to be undertaken concerns the welding of ferrous and nickel-base materials. It involves primarily long-term research investigations with emphasis placed on the development of improved and new materials. Publication of results will be encouraged. The section enjoys the support of other departments in a well-equipped research laboratory.

Preference will be given to candidates who have had previous research experience, which need not necessarily have been in the field of metal joining.

Salary will be in accordance with experience and qualifications. Pension and assurance schemes are in operation and, in appropriate cases, assistance can be given for housing. Applications, which will be treated in confidence, should give details of age, qualifications, and experience and be addressed to: The Manager, Development and Research Department, The Mond Nickel Company, Limited, Thames House, Millbank, London, S.W.1. Please mark envelope "Confidential L.58".

UNIVERSITY OF BIRMINGHAM

DEPARTMENT OF INDUSTRIAL METALLURGY

JOSEPH LUCAS FELLOWSHIP IN ELECTROMETALLURGY

Applications are invited for the above Fellowship for research in the field of Electrometallurgy with emphasis on the growth, structure, and mechanical properties of electrodeposits. The salary attached to the Fellowship will be £700-£1100 plus F.S.S.U. and child allowance of £50 per child. Candidates should have appropriate qualifications and experience in metallurgy, physics or chemistry.

Applications should be submitted as soon as possible to the Registrar, The University, Edgbaston, Birmingham 15, from whom further particulars may be obtained.